

THE COMING OF AGE OF AMERICAN BOTANY.¹ — Asa Gray was instrumental in creating two big revolutions which took place in American botany during the nineteenth century. As a young graduate, while still a country doctor, together with his friend and teacher John Torrey, he championed in this country the natural systems of Lindley, De Candolle, and others, over the artificial Linnean system which Amos Eaton had divulged and maintained. The final adoption by the botanical world of the natural systems brought Gray into prominence.

The second big turning point in Gray's career came with Charles Darwin and the "Origin of Species". Gray had been Darwin's American correspondent for some years before the publication of the "Origin" and had supplied Darwin with important facts especially concerning the Asiatic-American floristic relationships. In turn he became one of the few members of the Darwinian "inner circle" and was introduced to evolutionary theory before the rest of the world. This made Gray the natural candidate to explain evolution to the American public. In the many discussions and debates which took place, Gray presented an objective view of Darwinism, but without ever becoming a "convert" in the manner of Thomas Huxley. When the final smoke clouds of the Darwinian debates had been lifted, Gray emerged as the undisputed patriarch of American botanical science.

But undoubtedly Gray's main contribution was his daily work of classifying the material of the botanical explorations of the West which he and Engelmann were fostering. It was largely this tedious, time consuming work, which brought the center of gravity of American botany from Kew to Harvard and changed the flow of American material from its established lines to the Old World, to a young and vigorous center in the New World.

A. Hunter Dupree has presented a dynamic view of the unfolding of botanical history around Gray's life. Gray's first years when still an amateur collector, his friendship

¹ ASA GRAY by A. Hunter Dupree, 505 pp., 25 figures. 1959. The Belknap Press of Harvard University. \$7.50.

with Torrey, his rise in scientific stature, and his eventual collaboration in the North American Flora are very well described. The hardships that Gray had to undergo in order to become a true full-time botanist in a nation which was itself undergoing the labors and pains of growth are fully expressed. The author also acknowledges the debt which Gray and American botany in general owe to Europe and the reader is made fully aware that independence and self rule came to American botany through evolution and growth, and that Gray always remained in touch with Kew and the continent, assimilating all that was new and relaying it to the American world.

An important facet in Gray's life which has not been forgotten by Dupree, is Gray's ability as a writer of Manuals and textbooks of botany. It will be interesting therefore for the reader to learn that these books, which played such an important role in botanical teaching during more than half a century, were often born to ease the poverty of its author, or, as in the case of the famous "Manual", to prevent a poor and unscientific tome from filling the gap of need. It speaks well of Gray's ability in all aspects of botany, that under such circumstances he managed to produce work of such high quality.

The book is well printed and presented, and the few illustrations are adequate. The style is pleasant, neither superficial nor too academic, and the book will make good reading for the botanist and the layman.

Undoubtedly in a book of this kind many things had to be left out. The author, I feel, has sacrificed the personal aspects in favor of the scientific ones, especially in the long discussion over Darwinism and the Darwinian debates. Nevertheless enough of Gray the man is there to appreciate Gray the botanist in his full worth. — OTTO T. SOLBRIG, GRAY HERBARIUM.